Kelly Hranac
07/01/98 10:16 AM

To: Lane Butler, Christine Dayton, Laura Brooks, Tom Greengard, Annette Primrose, John Schmuck, Mike Peters, Robert Fiehweg, Craig Cowdery, John Law, Norma Castaneda, hopkins@fimad.lanl.gov AT INET@CCM

cc:

Subject:

Solar Ponds Plume Path Forward Meeting

Attendees:
Lane Butler, Chris Dayton, Laura Brooks - Kaiser Hill
Tom Greengard - KH/SAIC
Annette Primrose, Bob Fiehweg, Craig Cowdery, John Law, John Hopkins - RMRS
John Schmuck - Morrison Knudsen
Mike Peters - Rocky Mountain Compliance
Norma Casteneda - DOE
Kelly Hranac - Mesa Technical Consultants

1. The meeting began with a brief overview of the geology and hydrogeology of the Solar Ponds Plume area and the ITS.

2. The current studies related to the Solar Ponds Plume were summarized. The nitrate and uranium plume maps for the Upper Hydrostratigraphic Unit were shown and discussed. There was some discussion as to why the nitrate and uranium plumes looked somewhat different. It was the general concensus that the plumes are similar, and that the small differences are most likely the result of the different solutions containing nitrate and uranium that were disposed of in the various ponds. Lane asked if plume maps of historical data were available and what did they show.

***Action Item: Look up historical nitrate and uranium plume maps. (Kelly)*

3. The results of McLane's modeling of the Solar Ponds Plume were discussed. McLane had modeled the concentrations of nitrate and uranium at the point in groundwater where it potentially discharged to the stream. Their results showed that under the alternatives currently being evaluated, the groundwater would not have reached the in-stream standards by the year 2100. This lead to a discussion of the point of evaluation or point of performance monitoring for the Solar Ponds Plume remediation.

4. The point of evaluation for the selected remedial system was discussed. It was decided that this would actually be the performance monitoring point. It was Chris and Laura's opinion that the State felt that the groundwater must meet the surface water standards at the location where it entered surface water, without a mixing zone in the surface water. We discussed selecting GS-13 as the performance monitoring point; Chris and Laura felt the state would not buy this. There was discussion that some other surface water monitoring point closer to the center of the plume might be required.

***Action Item: Discuss performance monitoring point with regulators.(Chris, Laura)*

5. The status of the phytoremediation evaluation was summarized. In general, any phytoremediation system to be installed would be passive only and over the current location of the plume. The plantings would stay out of Preble's mouse

habitat. A phytoremediation system of this design could not handle all of the nitrate currently moving through the groundwater and McLane's model predicts that the concentrations in the groundwater near North Walnut creek will increase over the next 10 to 20 years. The general feeling was that phytoremediation is not the answer to remediating the Solar Ponds Plume, but could be used in conjunction with some other remedy.

6. Bob summarized the Building 995 studies. It is likely that the studies will show that Bldg. 995 can take the water. The primary drawbacks to using Bldg. 995 are that it can only take 4 gpm and it would not be a permanent solution (Bldg. 995 will eventually be removed). While the flow from the ITS averages 4 gpm over the course of the year, there are times it exceeds 100 gpm. For this reason, a storage area (MSTs, other tanks, or a pond) will be required. There was some discussion about possibly using Pond A-1 for this storage, possibly in conjunction with the remaining MSTs. There was a general feeling that the regulators would feel that they had given us an inch (by allowing us to use A-1 in emergencies) and we were trying to take a mile.

7. There was considerable discussion as to what potential remedial alternatives would work to remediate the Solar Ponds Plume. Some of the suggestions were: a biological treatment facility for treating nitrate, use of a cassette treatment system in a funnel and gate system, and phytoremediation.

8. Lane reiterated his desire to stop use of the MSTs and not spend any money to shore up the hillslope or insulate the above-ground lines to the ITS pump house. There was discussion as to what could be done to speed up bench-scale testing of the treatment media for the ETI system and actual installation of an operating system. The concensus was that there was no logical way to have the system installed by the time the ground (and the pipes to the ITS pump house) might freeze. John Law said that plans need to begin now to heat-trace or bury these lines and shore up the hillslope or it will be too late. The lines will have frozen or the hillslope failed before we can fix the problem.

9. Chris mentioned that the actinide study group would be looking at uranium transport in the Solar Ponds Plume area, as well as nitrate degradation.

10. Lane asked if there were any other alternatives that might work at this site. Other ideas were a different collection and treatment system (however this would not be passive and permanent) and a biological denitrification system. It was decided not to pursue either of these options.

11. It was decided that an engineering analysis of the funnel and gate system, possibly using at least some portions of the current ITS should begin immediately. More information as to the viability of this type of system will be learned next week when ETI is here.

12. Chris stated that we need to get the regulators on board with this change in direction as soon as possible. She also mentioned that it may now be difficult to meet the FY'99 milestone to have the remediation system in place. It is likely we may need to modify the milestone. If we want to modify the milestone, the modification needs to be discussed with the regulators by October 1.

13. The path forward/action items decided upon at the meetng are summarized below:

- The decision document will mention that the SEPs will be capped as part of Site closure.

- A "Mound-like" barrier/passive treatment system will be investigated as an additional alternative and added to the Decision Document. This will be a barrier and treatment system, probably with treatment cassettes.

- The ARARs will be written up as if the barrier system is the

preferred alternative and the performance monitoring point is GS-13. If possible, a draft of ARARs should be prepared by John Schmuck prior to his leaving RFETS.

- *The Draft Decision Document will describe the selected alternative and give an overview of the barrier system. Details of the media/design will not be in this document. Explanation wiull be provided on how the media will be optimized over time.*

- *A bench-scale test will be conducted in ETI's laboratory to see if it will work at this site. In parallel, plans to regrade the Solar Ponds area and reduce infiltration in the ITS area will be developed.*

- *The nitrate plume remediation will be discussed at the July 9th groundwater meetings to obtain additional information on successfully remediating this plume.*

- *A separate meeting will be held to discuss the remaining work, if any, which should be conducted by CH2M Hill and McLane.*

- *Determine if performance monitoring point is in surface water (and where in creek) or groundwater.*